

SINCUS NEWS

-----the newsletter of the-----
Sinclair Computer Users Society
1229 Rhodes Road
Johnson City, New York 13790

-----Since 1982-----

CORRECTIONS--pages 13 & 14 are reversed--Proportional Print Program
starts on page 14 and ends up on 13.

FOR Your information, modem users for local area BBSs, B,N,I is the setup for both TCCS and BUBBS. Phone numbers and
times are located in this issue.

NOTICE to all local area SINCUS members, July is dues due month, dues are still \$8 a year, if you can't pay in
person, mail it in to above address, and stay on the mailing list. We need you, your support and your input, re-up
in July!

-----Secretary's Notes-----

May Meet--final results are in and announced for the election of
officers for the year 1987-1988. As there was only one slate of
candidates, not many were holding their breath on this one. So here
are the official results:

- President-----John Sims
Vice President--Dave Schoenwetter
Treasurer-----George Fenney
Secretary-----Paul Hill
Trustees-----Don Lamem
Wes Brzozowski
William Tilley

Now that John is retiring from
ibm, he'll have up to 24 hours
a day to devote to his sinclair.
Have a Happy, Best of luck and
Health to the newest retiree!!

June Meet--Wes demoed his Proportional Printing Program and went in
details on how and why he developed such. His article and program
listing starts on page 11. Note printing error notice at top of this
page.

And just when we thought we'd seen it all, 32 columns, 64 columns and now proportional print, with 32 plus columns,
I showed the program we got from Richard Hurd, "Dragon's Companion" which uses 85 columns. Yup, I counted them, and
I noticed a couple other believers after they counted too!! If you use a TV for a video output, 85 columns will be
a touch hard to read. But with my little Zenith mono monitor the letters are readable. After this demo, a tape
received from Joan Kealy of El Paso, Texas was shown. Joan has collected info, data, tips and tidbits of handy dandy
ideas for programming, publications, user groups and anything else the TS2068 world touches on. We will include this
in our tape library to spread the idea around. If you see this interesting program, and wish to contribute more
ideas and helpful hints send Joan your efforts. Her address is on the tape.

Have a Happy, Safe and Healthy Fourth of July on this year of the
200th birthday of the Constitution.
On July 1, Have a Safe, Happy and Healthy Dominion Day. It is the
120th birthday of Canada's proclamation of the Dominion.

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July 15 -Wednesday-7pm -next meet
-Vestal Library-DUES DUE-
August 19 -Wednesday -7pm-end of
summer meet (already!)
Come on down and demo what you been
into all winter--see what's up!!

New, News, Views and Reviews.....by Paul Hill

NEWS: From member Richard Hurd, Warrenton, Oregon, an adaptation of the 85 character print driver software in the TS Technical Manual. A program demoing the capabilities of this, the "Dragon's Companion" was also adapted by Richard. This is on a local BBS called BUBBS-607-693-3359, the board is on 24 HOURS A DAY 7 DAYS A WEEK. Look for "DCT85.BAS" and "DCT85.BYT" in the Timex file section. The basic download is about 12 minutes, and Xmodem is used. John Colonna downloaded it and reports it works, and it is amazing! A very big thank you to Richard for all the work and for letting us share it. I hope before the snow flies, we can get a tape back to you with a whole bunch of goodies on it!

NEWS:LARKEN Electronics, RR #2, Navan, Ontario, Canada K4B 1H9 New products for sale...LKDOS Extended Basic Cartridge (\$65 US) fully Spectrum compatible, plugs in the cartridge port but shadows an area of the Sinclair ROM and takes over control when its commands are used. Other cartridges as the DS-64 or Spectrum emulators can be used with a modification. The LK-EXBC uses its own BK ROM and BK RAM. It will support 1 to 4 floppies as well as the soon to be released 256K RAMDISK

NEWS: 2068/SPEC Disk Interface-double density Interface can put 400K on a DS 5.25" drive. NMI save button and a Kempston compatible joystick port-(\$60.00 US) Both the LKDOS and the 2068/SPEC controller for \$115.00.

ZX81-2068 Disk Controller board is a single density disk controller for the 2068-ZX81 that can put 160K on a DS 5.25" drive. Can control 2 drives.(\$99.00 US)

256K RAM DISK should be available in the spring of 1987-which one might note is rapidly drawing to a close! cost is estimated at \$40-50 without the 6 256K chips. You also need the above LKDOS EXBC cartridge.

Write for info, shipping costs \$5 per order(?) If you order the same from RMG, 1419 1/2 7th Street, Oregon City, OR 97045 add \$3 for Shipping. All the above data from CCATS-Plotter May 1987.

REVIEWS: From Ian Robertson, SincBits, Apr/May 87 SINC-LINK- "...Larry Kenny of LARKEN ELECTRONICS has done it again! He has produced a disk interface cartridge, that plugs into the cartridge port, which turns your RAMEX interface into a LARKEN interface. And it works! It comes with the DOS on a 2764 Eprom and the FORMAT software on tape. The FORMAT programme is loaded into the computer and after configuring it to suit your (up to 4) drive system, it loads itself to disk. I have tried it on both 5.25" and 5 1/4" DSQD drives, without a problem. The LARKEN extended basic commands also work on my RAMEX hybrid. Now for the interesting part - the cartridge does not have to be removed from the cartridge port when the RAMEX DOS is used AND by switching off the RAMEX DOS eprom, the RAMEX does not have to be modified in any way."

At the Fest, Tom Simon, The CUYAHOGA VALLEY SOFTWARE WORKS, 615 School Ave., Cuyahoga Falls, OH 44221 was demonstrating their latest version of SPDOS for the Oliger Disc interface. If any JLU Users are interested in using a different DOS, this is the one. It comes on two disks, one to boot the JLU/SPDOS system and the other has the SPDOS software. The 18 page Manual is easy to read and is self explanatory.

VIENS: On the 1987 ComputerFest in Indianapolis-from Rod Gowen, of RMG, and CCATS Plotter (note address above)," I can honestly say that I really enjoyed the whole weekend. Other than the fact that I got only about 10 hours sleep in 4 days, it was a super affair!...over 47 dealers and user groups having tables, there were walkways about 5 feet wide and with an estimated 1100 people there on Saturday...there was barely room to turn around...for Sunday's crowd. At 9am the doors again opened up and we must have had an additional 200-300 people who had not been there on Saturday!...I noticed that a lot (?), I should say most of the dealers were already packing up by 2pm!...By 4pm there was NO ONE LEFT in our exhibit room other than my wife and myself!...the SMUG user group had made over 27 hours of video tape.<NOTE> Tape of 2nd Fest available from SMUG, PO Box 101, Butler, WI 53007. Send for data on costs.

FROM Ian Robertson, "The second MIDWEST T/S COMPUTER FEST, in Indianapolis, IN, was an unqualified success, both from a vendor and a spectator (visitor) viewpoint...My cup runneth over and my wallet runneth out of cash - what temptation!...Of course I attended all the hardware oriented seminars and was impressed by their content."

From SMUG Bytes, Bill Heberlein, May 87, "Well it's over. The 2nd Fest is now history and as unbelievable as it might seem this one was better than last year. The show space was larger and there were more seminars. One new item, and I hope it will be a regular fixture at the show was the SWAP SHOP....The seminars were very good and very diversified. Here are a few titles: Machine Code for the ZX81/TS1000; Computer Widowhood; Desktop Publishing; The FORTH Language. Each of the seminars were well attended and they were interesting."

From Frank Davis, Indiana Sinclair-Timex Users Group, Host/Sponsor of the 87 TS ComputerFest, "...CTM Magazine, 1704 Drive Birmingham, AL 35235 (205) 854-0271,...have taken over TS Horizons and will be finishing out the subscriptions of all who had been awaiting their next issue of TS Horizons."

THE PC8300; A CLONE OF THE T/S1000

Part 2 AND THE AUTHOR LEARNS MORE.

I had opted to remove the MH9013 transistor and I had purchased a solder sucker at Radio Shack and I removed the transistor that I thought was good and checked it on the transistor checker and found it was NPN. Digging out my stock of spare parts (my wife thinks that I have a junk yard in the basement) I found a stock of 2N2222A transistors, a couple hundred and I selected several with adequate lengths and checked them and found one dead and pitched it and the others seemed to be of the same level as the MH9013. A pin vise and a 1/32 drill followed by a drill of 0.039 diameter cleaned the solder out of the holes so the transistor leads went in easily and I carefully soldered the connections. With the chips still out I powered up and the LED power on indicator came on and no smoke. I put the chips in and with a piece of cardboard to insulate the bottom of the keyboard I powered up and got a series of beeps but nothing the screen and then silence. Subsequent handling flexed the keyboard connector cable enough that the wires parted at the circuit boards. I shelved the unit for later repair.

The second PC8300 that I ordered March 9th arrived Friday the 20th and I got lecture number XXX (not the first time obviously) from my little helpmate about the fact that I was getting far too much stuff (computers) and spending far too much time in the basement playing with said too much stuff. How can one that stands an even 60 inches be so aggressive? I saw that I was on thin ice so I waited till after supper was over and I had helped with the dishes and finished packing my lunch to take to work the next day before I disappeared into the basement.

Yep, I got the 2nd computer and the 16K rampak however while I was getting the PC8300 out of the foam box I turned it over and got a tinny rattle and I felt something sliding inside the computer. I considered that if I sent it back I would be three weeks to a month before I get a replacement if I got one. So I carefully tilted the computer and decided that the rattle wasn't a loose chip and was bigger than any other component that I could think of so I carefully opened the computer up and found the friction fit cover of the video modulator had come off and was rattling around. I pressed it into place and saw that the chips appeared to be firmly in their sockets and closed up the computer and carefully set it up and turned on the power.

I heard two beeps and the screen came to life in inverse video with a statement at the top left side that said READY and a flashing cursor in the bottom left corner. And each key stroke gave an audible beep that was slightly different toned for each key. I had an incomplete statement entered when I pressed the enter key and got a low pitched "growl" and the computer gave a sort of syntax error. But the manual was still in Chinese with maybe 1/4 to 1/5 in English and lots of puzzles to sort out. However it is so similar to the T/S1000 that you could almost use the PC8300 without an instruction manual except for the twinks that are different.

When the screen came to life it was with a black screen with white characters and it came to life on channel 3 and so far I have seen no way to change that if you wanted to. Also the signal is much stronger than from the T/S1000 and you can turn the brightness and contrast controls down. The screen seems more stable. The TV cable that came with it had a different connector on the TV end and there was no TV/computer switch box included with the computer but I used the Timex switch box and cable since it was already in place.

I typed in some REM statements had to spell out REM and SAVE'd the program and LOADED the program back in. On SAVEing there is no 5 second blank screen it goes into the SAVE screen display and gives an OK line NO. after finishing. I typed in NEW one letter at a time and then LOAD and loaded the program back in. I have a 50 Microampere meter and a speaker across the LOAD line from the taperecorder and I can see the level of the signal and hear the signal while LOADING a program. Instead of a 5 second silence there is a shrill whistle and the whistle ends and the program begins immediately. I thought something was wrong and I aborted the LOAD but the LOAD display was still on the screen so I activated the tape player and without the full five seconds of the whistle the program LOADED OK.

I knew from checking the signal names on the interface connector that the T/S1000 and the PC8300 were the same so I turned off the power and plugged in the T/S2040 printer and tried it. I had no trouble LLISTing the program that I typed in and later I had the LPRINT command working except that you have to spell them out. Other accessories will possibly work if the change in the character set doesn't confuse the computer.

I have LOADED in a couple of T/S1000 programs and one game worked or seemed to except for the character for the vehicle showed up for a letter. I haven't tried to debug the program. I tried to load the PC8300 program on tape into the T/S1500 but it defaulted but then the T/S1500 has always been fussy about the load level. And the tape has a strong signal on it. And the 5 second whistle might confuse the computer. A friend, Mike in Muscatine, thinks that the five second whistle is a signal for the PC8300 to recognize its own program and if it doesn't have the whistle then it will translate the program from T/S1000 to almost PC8300 Basic. I will have to experiment and try to find out.

Last night a friend stopped in and we played with the PC8300 a little and he showed me the way to run off the character set. And when he saw ink, border, paper he thought that it was a color computer and wanted to see the manual where it listed the character set. Comparing the character set as displayed by the computer with the manual the computer displays ink, paper, border while the manual states that those addresses are not used. See the character set of the PC8300 compared with the T/s1500.

Above one of the keys is the command "LINE NO." and I hadn't figured out yet and Gary suggested that I press shift and that key and at the bottom appeared a number and we tried it a couple of times and what it is is an automatic line numbering

that increments by 10 and would help to avoid line number problems.

Reset does not work like I thought it would, in fact I don't see a real use for it. I've had the computer go off into the never-never land and there was no way I could get it back without turning off the power. One possible small use is to use it to clear the bottom two lines and it does that without losing what is in memory.

More about the manual. I did not find a Manufacturer's name or the name of the printer and further I did not find any copyright notice nor a part number or book number nor an authors name. It does make you wonder and especially since the manual and the character set in the ROM are not identical. I feel that the lack of identity is a way around copy rights.

The little program given below will print out on the T/S2040 printer the character set. All key punches have been given. The complete program is as either the printer will print out or as the screen will display it after entering. You might have to enter a line like: FOR S=127 TO 255 to see it all.

```
9000 FOR S=0 TO 255          AFTER THE SECOND 5 PRES ENTER.  
SHIFTLINE NO. (PRESS TOGETHER) LPRINT CHR$ S;" "; PRESS ENTER  
SHIFT LINE NO. (PRESS TOGETHER) NEXTS PRESS ENTER
```

```
9000 FOR S=0 TO 255  
9010 LPRINT CHR$ S;" ";  
9020 NEXT S
```

You will have noticed that there is no need to put in spaces when you spell out what is a single stroke entry on the T/S1000. When you enter the line the computer adds the spaces as needed and if it doesn't it is easy to edit.

Bob Hoover did state it right: postage does cost money and when I have wrote asking for help or some such I have used a SASE. My wife is quite monetary minded and eyes the letters I write and all is fine as long as the household stamps aren't used for my computer hobby. I will try to answer all letters; however I am into a lot of ten hour days at my work place plus a lot of Saturdays and that does eat into a lot of my time. However, after December I will be another ROC like Oscar.

Next time I will try to work from the XZ81, the T/S1000 and the T/S1500 manuals and the PC8300 manual, I will try to find the areas where the computers differ and give examples.

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TIMEX/SINCLAIR BBS LIST
(APRIL 1987)

BULLETIN BOARD	NUMBER	NOTES	RATES
TIME==<X>==CHANGE BBS	(213) 329-3922	8 H D @	17/15
OMNI-NET BBS.	(718) 837-2881	7 M D	16/14
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PGHTSUG BBS	(412) 481-9327	8 M D	15/14
PUBLIC DOMAIN SOFTWARE EXCHANGE	(415) 571-6911	8 M D @	17/15

** NOTES **

- 7 PARAMETERS = 7/E/1
- 8 PARAMETERS = 8/N/1
- D TIMEX FILE TRANSFERS
- L LOW USAGE TIMEX MESSAGE BASE
- M MEDIUM USAGE TIMEX MESSAGE BASE
- H HIGH USAGE TIMEX MESSAGE BASE
- \$ SUBSCRIPTION REQUIRED
- % OPERATION DURING EVENINGS
- @ ACCESSIBLE VIA PC PURSUIT
- ? DOWN UNTIL FURTHER NOTICE

RATES ARE THE CHARGES FROM CHICAGO FOR THE FIRST
MINUTE & EACH FOLLOWING MINUTE AFTER 11:00 PM.

```

;Handle a "cursor right"
; Identical to Spectrum at 100C

0B72 7E      LD  A,(HL)      ;Get character
0B73 FE0D    CP   80D        ;ENTER character
0B75 C8      RET  Z         ;If already at end of line

0B76 23      INC  HL         ;Update cursor

0B77 225B5C  LOB77 LD  (K_CUR),HL ;Redo K_CUR
0B7A C9      RET

;Handle a "DELETE"
; Identical to Spectrum at 1015

0B7B C8970B  CALL 80B97       ;Decrement cursor, unless at start
0B7E 010100  LD   BC,80001    ;One space
0B81 C35017  JP   81750       ;Reclaim the space

;Ignore the next 2 codes
; Identical to Spectrum at 101E

0B84 C8CF11  CALL 811CF       ;Wait for a key
0B87 C8CF11  CALL 811CF       ;Again

;Handle an "ENTER"
; Identical to Spectrum at 1024

0B8A E1      LOB8A POP HL      ;Trash the RETURN to 80ABE
0B8B E1      PDP HL       ;Trash the RETURN to 80BES

0B8C E1      LOB8C POP HL
0B8D 223D5C  LD   (ERR_SP),HL ;Restore old value
0B90 FDCB007E BIT  7,(IY+0)    ;ERR_NR
0B94 C0      RET  NZ         ;If no errors

0B95 F9      LD   SP,HL     ;Otherwise, jump to error routine
0B96 C9      RET

;Used in deleting. Moves the cursor 1 space left, unless we're
; already at the beginning of a line
; Identical to Spectrum at 1031

0B97 37      SCF
0B98 C8FBC0  CALL 80CFB       ;Put value in DE. E_LINE for editing,
; or WORKSP for INPUT mode

0B99 E852    SBC  HL,DE
0B9D 19      ADD  HL,DE
0B9E 23      INC  HL
0B9F C1      POP  BC        ;Trash return address
0BA0 D8      RET  C         ;So RETURN is to 80ABE

0BA1 C5      PUSH BC       ;Restore RETURN address
0BA2 44      LD   B,N
0BA3 48      LD   C,L        ;Cursor address

;This keeps control characters & their follow up bytes together
; during deletion

0BA4 62      LOBA4 LD  H,D
0BA5 68      LD   L,E
0BA6 23      INC  HL
0BA7 1A      LD   A,(DE)
0BA8 E6F0    AND  8F0
0BAA FE10    CP   810
0BAC 2009    JR   NZ,LOBB7

0BAE 23      INC  HL
0BAF 1A      LD   A,(DE)
0B30 8617    SUB  817
0BB2 CE00    ADC  A,800
0BB4 2001    JR   NZ,LOBB7

0BB6 23      INC  HL

0BB7 A7      LOBB7 AND  A
0BB8 E842    SBC  HL,BC
0BB9 09      ADD  HL,BC
0BBB EB      EX   DE,HL
0B9C 38E6    JR   C,LOB84

0BDE C9      RET

```

```

;Handle a "cursor up"
; Identical to Spectrum at 1059

0BBF FDCB376E BIT  5,(IY+55)   ;FLAG_X
0BC3 C0      RET  NZ         ;If in INPUT mode

0BC4 2A495C  LD   HL,(E_PPC)   ;Line number
0BC7 CDD616  CALL 816D6       ;Get its address
0BCA EB      EX   DE,HL   ;Point to previous line
0BCB CD2413  CALL 81324       ;Get line #
0BCE 214A5C  LD   HL,85C4A    ;E_PPC - hi byte
0BD1 CD6816  CALL 81668       ;Store the number

0BD4 CDE114  LOBD4 CALL 814E1   ;Do an automatic listing
0BD7 3E00    LD   A,800       ;Stream 0 for channel "K"
0BD9 C33012  JP   81230       ;Make it current channel

;For sybol shift & graphics
; Identical to Spectrum at 1076

0BDC FDCB377E BIT  7,(IY+55)   ;FLAG_X - for INPUT ... LINE ...
0BE0 28A8    JR   Z,LOB8A    ;If not

0BE2 C3E70A  JP   80AE7       ;If we are

;Handle an editing error and make the TS2068 honk at the
; errant programmer
; Identical to Spectrum at 107F

0BE5 FDCB3066 BIT  4,(IY+48)   ;FLAG52
0BE9 28A1    JR   Z,LOB8C    ;If not using channel "K"

0BED FD3400FF LD   (IY+0),8FF   ;ERR_NR - no error
0BEF 1400    LD   B,800
0BF1 FD9EFE  LD   E,(IY-2)    ;RASP
0BF4 21901A  LD   HL,81A90    ;Pitch
0BF7 C8F303  CALL 803F3       ;BEEP the raspberry
0BFA C3860A  JP   80AB6       ;Back to the editor

;Clear edit area or workspace (depending on mode)
; Identical to Spectrum at 1097

0BFD E5      PUSH HL
0BFE CDF60C  CALL 80CF6       ;Point DE & HL to proper spaces
0C01 2B      DEC  HL
0C02 CD4D17  CALL 8174D       ;Close up the space
0C05 225B5C  LD   (K_CUR),HL
0C08 FD360700 LD  (IY+7),800   ;MODE - K mode
0C0C E1      POP  HL
0C0D C9      RET

;Input a key & handle mode switching & caps lock
; Identical to Spectrum at 10AB

0C0E FDCB025E BIT  3,(IY+2)    ;TV_FLAG
0C12 C4B30C  CALL NZ,80CB3    ;Copy line to lower screen
0C15 A7      AND  A
0C16 FDCB016E BIT  5,(IY+1)   ;FLAGS
0C1A C8      RET  Z         ;If no key was pressed

0C1B 3A0B5C  LD   A,(LAST_K)
0C1E FDCB01AE RES  5,(IY+1)   ;FLAGS
0C22 F5      PUSH AF
0C23 FDCB026E BIT  5,(IY+2)    ;TV_FLAG
0C27 C4A908  CALL NZ,808A9    ;Clear lower screen
0C2A F1      POP  AF
0C2B FE20    CP   820
0C2D 3052    JR   NC,LOC81   ;Printable character or token

0C2F FE10    CP   810
0C31 302D    JR   NC,LOC60    ;Some control codes

0C33 FE06    CP   806
0C35 300A    JR   NC,LOC41    ;Mode & CAPS LOCK codes

```

```

;FLASH, BRIGHT & INVERSE
0C37 47 LD B,A
0C38 E601 AND 801
0C3A 4F LD C,A
0C3B 78 LD A,B
0C3C 1F RRA
0C3D C612 ADD A,#12
0C3F 182A JR LOC6B

;Mode & CAPS LOCK codes
0C41 2009 LOC41 JR NZ,LOC4C

0C43 216A5C LD HL,FLAGS2
0C46 3E08 LD A,#08
0C48 AE XOR (HL)
0C49 77 LD (HL),A
0C4A 180E JR LOC5A

0C4C FE0E LOC4C CP #0E
0C4E D8 RET C

0C4F D60D SUB #0D
0C51 21415C LD HL,MODE
0C54 BE CP (HL)
0C55 77 LD (HL),A
0C56 2002 JR NZ,LOC5A

0C58 3600 LD (HL),#00
0C5A F8C802DE LOC5A SET 3,(Y+2) ;TV_FLAG
0C5E BF CP A
0C5F C9 RET

;The rest of the control codes
0C60 47 LOC60 LD B,A
0C61 E607 AND 807
0C63 4F LD C,A
0C64 3E10 LD A,#10
0C66 C858 BIT 3,D
0C68 2001 JR NZ,LOC6B

0C6A 3C INC A

0C6B F871B3 LOC6B LD (Y-45),C ;K_DATA
0C6E 11730C LD DE,#0C73
0C71 1806 JR LOC79

0C73 3A0D5C LD A,(K_DATA)
0C76 110E0C LD DE,#0C0E ;Jump address

0C79 2A4F5C LOC79 LD HL,(CHANS)
0C7C 23 INC HL
0C7D 23 INC HL
0C7E 73 LD (HL),E
0C7F 23 INC HL
0C80 72 LD (HL),D

0C81 37 LOC81 SCF
0C82 C9 RET

;Copy line in INPUT or EDIT area into edit line on screen
; Identical to Spectrus at 111D
0C83 C08808 CALL #0888 ;Use permanent colors
0C86 F8C8029E RES 3,(Y+2) ;TV_FLAG
0C8A F8C802AE RES 5,(Y+2) ;TV_FLAG
0C8E 2ABASC LD HL,(SPOSML)
0C91 E5 PUSH HL
0C92 2A3D3C LD HL,(ERR_SP)
0C95 E5 PUSH HL
0C96 21C80C LD H,#0C8D ;A JP address
0C99 E5 PUSH HL
0C9A EB733D3C LD (ERR_SP),SP
0C9E 2A825C LD HL,(ECHO_E)
0CA1 E5 PUSH HL
0CA2 37 SCF
0CA3 C0CF8C CALL #0CF8 ;Point HL to start & DE to end of space
0CA6 EB EX DE,HL
0CA7 C0C915 CALL #15C9 ;Print the line
0CAA EB EX DE,HL
0CAB C02D16 CALL #162D ;Print the cursor

0CAE 2ABASC LD HL,(SPOSML)
0CB1 E3 EX (SP),HL
0CB2 EB EX DE,HL
0CB3 C08808 CALL #0888 ;Use permanent colors

0CB6 3A8B5C LOC86 LD A,(SPOSML + 1) ;hi-byte - line number
0CB9 92 SUB D
0CBA 3826 JR C,LOC82

0CBC 2006 JR NZ,LOC84

0CBE 7B LD A,E
0CBF F89650 SUB (Y+80) ;S_POSN - 10 byte - column
0CC2 301E JR NC,LOC82

0CC4 3E20 LOC84 LD A,#20 ;An ASCII space
0CC6 D5 PUSH DE
0CC7 C00005 CALL #0500 ;Print the space
0CCA D1 POP DE
0CCB 18E9 JR LOC86

;Handle edit errors
0CCD 1600 LD D,#00
0CCF F85EFE LD E,(Y-2) ;RASP
0CB2 21901A LD HL,#1A90 ;Pitch
0CD5 C0F303 CALL #03F3 ;BEEP routine
0CDB F83600FF LD (Y+0),#FF ;ERR_NR - cancel any error
0CDB E858BASC LD DE,(SPOSML)
0CE0 1802 JR LOC84

;Normal exit
0CE2 D1 LOC82 POP DE
0CE3 E1 POP HL

;Error exit from here
0CE4 E1 LOC84 POP HL
0CE5 223D3C LD (ERR_SP),HL
0CE8 C1 POP BC
0CE9 D5 PUSH DE
0CEA C01409 CALL #0914 ;Save pointers
0CED E1 POP HL
0CEE 22825C LD (ECHO_E),HL
0CF1 F8362600 LD (Y+38),#00
0CF5 C9 RET

;Set HL=address of first byte, DE=last byte of work or edit spa
; Identical to Spectrus at 1190
0CF6 2A613C LD HL,(WORKSP)
0CF9 2B DEC HL
0CFA A7 AND A

0CFB E858395C LD DE,(E_LINE)
0CFF F8C8376E BIT 5,(Y+55)
0D03 C8 RET Z

0D04 E858615C LD DE,(WORKSP)
0D08 D8 RET C

0D09 2A635C LD HL,(STKBOT)
0D0C C9 RET

;Remove the extra floating point garbage from a BASIC line
; Identical to Spectrus at 11A7
0D0D 7E LODD LD A,(HL)
0D0E FE0E CP #0E ;Number slug character
0D10 010600 LD BC,#0006 ;5 bytes for number + 1 for slug
0D13 C05017 CALL Z,#1750 ;Reclaim the space
0D16 7E LD A,(HL)
0D17 23 INC HL
0D18 FE0D CP #0D ;ENTER character
0D1A 20F1 JR NZ,LOD0D ;Loop again if not at end of line

0D1C C9 RET

```

```

;*****
; The Top Level Executive Portion 0
;*****

```

```

;NEW handler
; Similar to Spectrum at 11B7

```

```

0010 F3      B1
001E 3EFF    LD  A,0FF      ;NEW - not power up
0020 ED5B25C LD  DE,(RANTOP)
0024 D9      EXX
0025 ED4B45C LD  BC,(P_RANT)
0029 ED5B385C LD  DE,(RASP)
002D 2A785C  LD  HL,(UD6)
0030 D9      EXX      ;Put 'ea where NEW can't get 'ea

```

```

;Enter here at Power Up
0031 47      LD  B,A      ;Save the NEW/Power Up flag
0032 3E07    LD  A,07
0034 D3FE    OUT (8FE),A  ;White border
0036 3E3F    LD  A,03F    ;So Refresh cycles "point" to ROM
0038 ED47    LD  I,A      ; (it's useful when debugging the hardware)
003A 00      NOP
003B 00      NOP      ;These cause extra HI cycles (hence
003C 00      NOP      ; extra refresh cycles) before RAM is
003D 00      NOP      ; used at power up. This is a Z-80
003E 00      NOP      ; hardware requirement.
003F 00      NOP

```

```

;The RAM check
0040 62      LD  H,D
0041 4B      LD  L,E
0042 3602    LOD42 LD  (HL),002
0044 2B      DEC  HL
0045 BC      CP   H
0046 20FA    JR  NZ,LOD42

```

```

0048 A7      LOD48 AND  A
0049 ED52    SBC  HL,DE
004B 19      ADD  HL,DE-
004C 23      INC  HL
004D 3006    JR  NC,LOD55

```

```

004F 35      DEC  (HL)
0050 2803    JR  Z,LOD55
0052 35      DEC  (HL)
0053 28F3    JR  Z,LOD48

```

```

0055 2B      LOD55 DEC  HL

```

```

;Restore system variables that NEW mustn't wipe out

```

```

0056 D9      EXX
0057 ED43B45C LD  (P_RANT),BC
005B ED53385C LD  (RASP),DE
005F 22785C  LD  (UD6),HL
0062 D9      EXX
0063 04      INC  B
0064 2819    JR  Z,LOD7F    ;If doing a NEW

```

```

;Here if Power On or RESET

```

```

0066 22B45C  LD  (P_RANT),HL
0069 11AF3E  LD  DE,#3EAF
006C 01AB00  LD  BC,#00A8
006F EB      EX  DE,HL
0070 EDB8    LDDR
0072 EB      EX  DE,HL
0073 23      INC  HL
0074 227B5C  LD  (UD6),HL
0077 2B      DEC  HL
0078 014000  LD  BC,#0040
0079 ED43385C LD  (RASP),BC

```

```

;Jump ahead here when doing a NEW

```

```

007F 22825C  LOD7F LD  (RANTOP),HL
0082 21003C  LD  HL,#3C00
0085 22365C  LD  (CHARS),HL
0088 210062  LD  HL,#6200    ;The first location above the stack
0089 22C05C  LD  (INSTBOT),HL
008E 2B      DEC  HL
008F 363E    LD  (HL),03E    ;The last stack entry is 3E00. This
0091 2B      DEC  HL      ; represents an "impossible" line
0092 F9      LD  SP,HL      ; number.

```

```

0093 2B      DEC  HL
0094 2B      DEC  HL
0095 223D5C  LD  (ERR_SP),HL
0098 ED56    IN  I
009A 00      NOP      ;Spectrum has an EI around here
009D F0213A5C LD  IV,ERR_NR

```

```

;Set up the initial Channels

```

```

009F 214068  LD  HL,#6840
00A2 224F5C  LD  (CHANS),HL
00A5 11A111  LD  DE,#11A1
00A8 011500  LD  BC,#0015
00AB EB      EX  DE,HL
00AC E0B0    LDIR
00AE EB      EX  DE,HL

```

```

;Some of the system variable initialization from the Spectrum
; removed from here, & put in the EXROM. This would allow
; expansion banks to add channels without having to do a lot
; sucking about with the memory layout

```

```

00AF 3E38    LD  A,#38
00B1 32B05C  LD  (ATTR_P),A
00B4 32B05C  LD  (ATTR_T),A
00B7 32485C  LD  (BORDER),A
00BA 212305  LD  HL,#0523
00BD 22095C  LD  (REPDEL),HL
00C0 FD35C6  DEC  (IY-58)    ;K_STATE gets OFF
00C3 FD35CA  DEC  (IY-54)    ;K_STATE + 4 gets OFF

```

```

;Set up the initial streams

```

```

00C6 21C111  LD  HL,#11C1
00C9 11105C  LD  DE,STRMS
00CC 010E00  LD  BC,#000E
00CF EDB0    LDIR

```

```

;Standard video mode (TS2068 only)

```

```

00D1 AF      XOR  A
00D2 D3FF    OUT (0FF),A

```

```

;Clear printer buffer

```

```

00D4 F0CB01CE SET  1,(IY+1)    ;FLAGS - printer in use
00D8 CD350A  CALL #0A35      ;Clear print buffer

```

```

00DB FD363102 LD  (IY+49),#02 ;DF_SZ - Edit line = 2 lines
00DF C9A608  CALL #08A6      ;Clear screen
00E2 AF      XOR  A
00E3 F0CB01E6 SET  4,(IY+1)    ;FLAGS (TS2068 only)

```

```

;Print copyright messages

```

```

00E7 111711  LD  DE,#1117    ;Address of copyright message
00EA CD3F07  CALL #073F      ;Print it
00ED F0CB02EE SET  5,(IY+2)    ;TV_FLAG - Edit line to be cleared

```

```

;Move the code that will copy RAM resident code from EXROM to
; We can't copy EXROM directly from Home ROM, because we have
; switch the ROM out to do so.

```

```

00F1 210B0E  LD  HL,#0B0E
00F4 110060  LD  DE,#0060
00F7 011B00  LD  BC,#001B
00FA EDB0    LDIR

```

```

;This causes the code to be copied
CALL #6000

```

```

00FF 21CE65  LD  HL,#65CE
0E02 22CE65  LD  (65CE),HL

```

```

;This effectively does a JP (not CALL) to 10BE7 (EXROM address)
; This checks for additional memory and finishes initializing
; system variables. In the absence of activity from additional
; banks, control will then be passed to 0E2F, in the Main Loc.

```

```

0E05 21E708  LD  HL,#0E7
0E08 CD1568  CALL #6815      ;GOTO_EXT - goto 10BE7

```

;This code is copied to location 6000. It in turn copies the RAM
 ; Resident code from EXROM to 6200
 ; This code has no Spectrum counterpart

```

OE0B 3E01      LD  A,#01
OE0D 03F4      OUT (0F4),A
OE0F 0BFF      IN  A,(0FF)
OE11 0BFF      SET 7,A
OE13 03FF      OUT (0FF),A      ;EXROM is switched in, at this point
OE15 210010    LD  HL,#1000
OE1B 110062    LD  DE,#6200
OE1D 013006    LD  BC,#0630
OE1E 0B80      LDIR                      ;Code is copied, here
OE20 0B8F      RES 7,A
OE22 03FF      OUT (0FF),A
OE24 0F        XOR  A
OE25 03F4      OUT (0F4),A      ;Home ROM is switched back in, now
OE27 0C        RET
  
```

;The Main Execution Loop. Reads & handles BASIC lines and
 ; commands that are typed into the edit line

```

OE28 FD363102 LOE28 LD  (IY+49),#02 ;DF_SZ
OE2C 0DE114    CALL 014E1      ;Do an auto listing
  
```

;Enter here from initialization or NEW
 ;Empty the workspaces

```

OE2F 0B3F13    CALL 0133F
OE32 3E00      LOE32 LD  A,#00
OE34 0D3012    CALL 01230      ;OPEN "K" channel
OE37 0D820A    CALL 00A82      ;Line input
OE3A 0D271A    CALL 01A27      ;Syntax check
OE3D FDCB007E  BIT 7,(IY+0)    ;ERR_NR
OE41 2012      JR   NZ,LOE55  ;Jump if syntax is OK
  
```

```

OE43 FDCB3066  BIT 4,(IY+48)   ;FLAG52
OE47 2844      JR   Z,LOE5D    ;If not using channel K
  
```

```

OE49 2A595C    LD  HL,(E_LINE) ;Point to start of bad line
OE4C 0D0D0D    CALL 0D0D0      ;Wipe the floating point trash
OE4F FD3600FF  LD  (IY+0),0FF ;Wipe the error code
OE53 180D      JR   LOE32      ;...and give the programmer another try
  
```

;Here if syntax OK. Now check for a line number

```

OE55 2A595C    LOE55 LD  HL,(E_LINE) ;Start of line
OE5B 225D5C    LD  (CH_ADD),HL
OE5D 0D6817    CALL 01768      ;Get line # into BC, if it exists
OE5E 78        LD  A,B
OE5F 01        OR  C
OE60 C25811    JP  NZ,01158   ;If a legal one exists, then jump
  
```

```

OE63 0F        RST #18      ;Check first character
OE64 FE0D      CP  0D0
OE66 28C0      JR   Z,LOE28  ;Jump if it's only an ENTER
  
```

;Here if it's a command (no line number)

```

OE68 FDCB3046  BIT 0,(IY+48) ;FLAG52
OE6C 04EA08    CALL NZ,00EA    ;Clear screen, if appropriate
OE6F 0DA908    CALL 00A9      ;Always clear edit line
OE72 3E19      LD  A,#19
OE74 FD964F    SUB (IY+79)     ;S_POSN - hi byte
OE77 328C5C    LD  (SCR_CT),A ;Set up scroll count
OE7A FDCB01FE  SET 7,(IY+1)   ;FLAG5 - Signal "line execute"
OE7E FD3600FF  LD  (IY+0),0FF ;ERR_NR - No error
OE82 FD360A01  LD  (IY+10),#01 ;NSPPC - run the first statement
OE86 FD367C00  LD  (IY+124),#00 ;ERRLN - ON ERROR GOTO 0
OE8A 0D891A    CALL 01A88     ;RUN the line
  
```

;The address of this instruction is pointed to by ERR_SP
 LOE8D HALT

;A lengthy addition for the TS2068

```

OE8E FD7E00    LD  A,(IY+0)   ;ERR_NR
OE91 FEFF      CP  0FF
OE93 2833      JR   Z,LOE8B  ;If ERR_NR shows no error

OE95 FDCB7D7E  BIT 7,(IY+125) ;ERR_LN - hi byte
OE99 282D      JR   Z,LOE8B
  
```

```

OE9B FDCB7DF6  SET 6,(IY+125) ;ERR_LN - hi byte
OE9F 3C        INC  A
OEA0 328B5C    LD  (ERRT),A
OEA3 FD3600FF  LD  (IY+0),0FF ;Wipe the error
OEA7 2A455C    LD  HL,(PPC)
OEAA 228B5C    LD  (ERRC),HL ;Save the line where error occurs
OEAD 3A475C    LD  A,(SUBPPC)
OEBO 32BA5C    LD  (ERRS),A ; Save statement where error occurs
OEBC 2A865C    LD  HL,(ERRLN)
OEBE 0B8C      RES 7,H
OEBC 0B84      RES 6,H ;reset ERR_LN flags
OEBA 22425C    LD  (NEWPPC),HL ;Line to be jumped to
OEBD FD360A01  LD  (IY+10),#01 ;Jump to statement 1 of the line
OEC1 218D0E    LD  HL,#0EBD
OEC4 05        PUSH HL ;Preload stack with return to OE8B
OEC5 C3B91A    JP  01AB9     ;Do a "statement return"
  
```

;Here if no error

```

OEC8 3E07      LOE8 LD  A,#07
OECA 03F5      OUT (0F5),A
OECC 03FF      LD  A,0FF
OECE 03F6      OUT (0F6),A ;Initialize sound chip
OED0 FDCB029E  RES 3,(IY+2) ;TV_FLAG - fix input cursor error
  
```

;Here's where the Spectrum version resumes

```

OED4 FDCB01AE  RES 5,(IY+1)   ;FLAG5 - ready for new key
OED8 FDCB304E  BIT 1,(IY+48) ;FLAG52
OEDC 04230A    CALL NZ,0A23   ;Dup print buffer, if there's in
OEDF 3A3A5C    LD  A,(ERR_NR)
OEE2 3C        INC  A
  
```

OEE3 F5 PUSH AF ;Save "proper" error number

;Reset some system variables

```

OEE4 210000    LD  HL,#0000
OEE7 FD7437    LD  (IY+55),H ;FLAGX
OEEA FD7426    LD  (IY+38),H ;X_PTR, high byte
OEED 22085C    LD  (DEFADD),HL
OEF0 210100    LD  HL,#0001
OEF3 22165C    LD  (STRNS +6),HL ;Stream 0 gets channel K
OEF6 0B3F13    CALL 0133F     ;Empty workspaces
OEF9 FDCB37AE  RES 5,(IY+55) ;Edit mode
OEFD 0DA908    CALL 00A9      ;Clear edit line
OF00 FDCB02EE  SET 5,(IY+2)  ;TV_FLAG - for clearing edit li.
OF04 F1        POP  AF ;Error number
OF05 47        LD  B,A
OF06 FE0A      CP  0A0
OF08 3802      JR   C,LOFOC  ;Jump for reports 0-9
  
```

OF0A C607 ADD A,#07 ;Convert to ASCII letter

OF0C 0DEA11 LOFOC CALL 011EA ;Print error code

OF0F 3E20 LD A,#20

OF11 07 RST #10 ;Print a space

OF12 78 LD A,B ;Error number

OF13 11630F LD DE,#0F65 ;Address of message table

OF16 0D3F07 CALL 0073F ;Print the message

OF19 0F XOR A

OF1A 111511 LD DE,#1115 ;Address of the ", " string

OF1D 0D3F07 CALL 0073F ;Print it

OF20 ED4B455C LD BC,(PPC) ;Line number

OF24 0D8817 CALL 01788 ;Print it

OF27 3E3A LD A,";"

OF29 07 RST #10 ;Print it

OF2A FD4E0D LD C,(IY+13) ;SUBPPC = statement number

OF2D 0600 LD B,#00

OF2F 0D8817 CALL 01788 ;Print it

OF32 0D8F08 CALL 008FD ;Clear edit area

OF35 3A3A5C LD A,(ERR_NR)

OF38 3C INC A

OF39 2818 JR Z,LOF56 ;If "error message" is "OK"

OF3B FE09 CP 09

OF3D 2804 JR Z,LOF43 ;If "error" was a STOP state

OF3F FE13 CP 13

OF41 2003 JR NZ,LOF46 ;If "error" was a BREAK

OF43 FD340D LOF43 INC (IY+13) ;SUBPPC

GETTING THE RIGHT PROPORTIONS

-Wes Brzozowski, SINCUS

Before reading too far into this, go grab a newspaper or some other publication that has print laid out in narrow columns. Count the number of letters and blank spaces on several lines. Chances are, you'll find that each line contains a DIFFERENT number of characters.

This is done with a method called Proportional Printing. It turns out that fat characters like M take take up a whole lot more space than the tiny letter i, so each character is given only as much room as it needs. Not only is this much more pleasing to the eye, it allows a surprising amount of extra text to be squeezed into the same amount of space.

Our TS2068s normally display 32 or 64 (and now 85) columns of text, with each character taking up the same width, no matter what its size. It seems that we should be able to improve this somewhat.

Actually, the job has already been done for us. In the Nov. 1985 issue of *YOUR SPECTRUM*, in the article "All Out of Proportion", such a program is given. Unfortunately, it does have a number of deficiencies. I've corrected as many of these as are practical (though they can still be annoying at times) and presented it here for your use. Note that the Spectrum program and my perversion of it here are radically different in many ways. If you've got the old version, you'll still have to completely retype it for the TS2068. Still, they do function somewhat alike, and you might find the text of that article to be helpful.

For those who have that original article, the main differences are: 1) the code is modified to run on a TS2068, 2) machine code is initially entered through DATA statements, eliminating the need for a hex loader, 3) the character fonts are MUCH improved, and you don't have to type in the pixel patterns for each, because my program derives the patterns from the Timex patterns, already in ROM, 4) the code works as in OVER 0, rather than OVER 1, so if you print over a space that already contains text, you won't get such an awful mess, and 5) the TAB function is also implemented in the proportional mode.

This article contains two programs; type in and RUN the first one. After a long wait, it will SAVE the true proportional printing program to tape. When you reload that one (no waiting required, from here on) you'll be ready to begin.

It starts out with a little demonstration of proportional printing. This redefines the LPRINT command, so it will conflict with your use of a printer. I haven't found this to be any bother in the types of programs I've used it in. Still, if there's sufficient interest, it shouldn't be too hard to produce an add-on program that inserts a "proportional print" channel, and attaches it to an unused stream. This could allow your normal printer to work (in its normal mode) in conjunction with proportional printing on the screen. In the mean time, if your printer supports a COPY function, that should work with this program, as is.

In any case, LPRINT now prints to the screen in proportional mode, and PRINT continues to work like it always does, so you can mix BOTH methods in your program at once. However, both maintain their own separate screen locations, so you can easily print to different parts of the screen with each.

For proportional screen positioning, you can use LPRINT AT and LPRINT TAB commands. However, note that the old AT and TAB

functions use screen positions that assume all characters are 8 pixels wide. This would never do for proportional printing, so when you use AT or TAB with LPRINT, you specify the X and Y locations in PIXELS, not in characters. This means you can place your characters anywhere you want on the screen, right down to the pixel level. The BASIC program, from lines 3030 on give a reasonable demonstration of how it works.

The *YOUR SPECTRUM* article also included a font designer program, which is included here, but this is optional. To move the cursor, use the Q, A, O, and P keys. Use M and N to turn a pixel on or off. F keeps the design, D displays a character, U displays the entire character set and S and J save and load the character set. LOAD in a SAVED character set to the main program with LOAD "" CODE 64208. Once loaded into the proportional print program, you can save the program and fonts together, and never bother with the fonts again.

The proportional printing fonts require one new thing we never worried about before; you have to specify how many pixel wide your character is. To do this, you design your character to touch the right most border of the 8 x 8 character block you're given. Then, in the top row of pixels, you set each pixel that's in a valid column for that character. Thus, if your character is to be five pixels wide, simply set the right most 5 pixels in the top row (those won't be printed on the screen, don't worry). Don't forget to include one or more pixels for the spacing between characters! In the "standard" character set, I've chosen to have only one pixel width of space between characters, and a "blank space" character is 4 pixels wide. This works fairly nicely, but you can change it to suit your needs.

A small sample of proportional printing is included here. Won't that look nice in your next program?

NOTES from Editor: *A big thanks to Wes, with all Wes does, and it is a lot folks, Wes finds time to do projects for us, Time Designs, answer a lota mail, write programs, find time for family and of course his employer. ALL of the TS family benefits from the generosity of Wes and all the others who contribute their valuable time and talents to their user group and newsletters and BBSs. If you like being on the receiving end of the efforts of others, and do not contribute time, talent or sweat to the efforts of a user group, newsletter or BBS, there will soon be fewer or no sources of information. Several UGs and many BBSs have quit over the past year, several newsletters have reduce their number of issues and no replacements are in sight. Wake up folks, smell the coffee, and lend a hand before it is too late.*

The proportional printing program will be Uploaded to BUBBS under name of WESPPP.BAS. The font program may be uploaded at a later date. Data on BUBBS: (607)693-3359-7 days-24hours a day- 300 baud on from 5pm to 9am weekdays, 24 hours weekends-free.

On pages 7 thru 10 of this issue, as in earlier issues, we are running a printout of the TS2068 ROM disassembly by Wes Brzozowski.

We are running extra copies of each page of the ROM Disassembly that we may offer members at the conclusion of the printout a complete set. With this issue we have nine sheets or 18 pages of printout. Our extra copy run is set at 50, it will be made available on a first come first serve basis with a minimal donation requested to cover postage.

```

1150 LET smin=8: LET daddr=daddr
-8
1170 FOR x=1 TO 8
1180 LET s=0: LET r=PEEK daddr:
LET daddr=daddr+1: IF r=0 THEN G
0 TO 1220
1190 IF ABS (r/2-INT (r/2))>.1 T
HEN GO TO 1210
1200 LET s=s+1: LET r=INT (r/2+.
1): GO TO 1190
1210 IF s<smin THEN LET smin=s
1220 NEXT x
1225 IF smin=0 THEN LET smin=1
1226 LET q=2+(smin-1)-1: IF smin
=1 THEN LET q=0
1230 POKE daddr-8,q
1240 NEXT c
1250 POKE 64200,15
1260 FOR j=64201 TO 64207: POKE
j,0: NEXT j
2000 BEEP .25,1: BEEP .25,15: BE
EP .25,1: BEEP .25,15
2010 SAVE CHR$ 253+CHR$ 245+CHR$
8+"ING"+CHR$ 235+"YOU" LINE 300
0
2020 SAVE CHR$ 232+CHR$ 204+CHR$
227+"THE "+CHR$ 175 CODE 64200,
1160
2025 RANDOMIZE USR 64970
2030 GO SUB 8000
2040 STOP
3000 CLEAR 64199: LOAD ""CODE
3010 RANDOMIZE USR 64970
3020 GO SUB 8000
3030 LPRINT
3040 LPRINT "You can now NEW the
BASIC portion away;"
3050 LPRINT "This will Turn Off
the proportional printing..."
3060 LPRINT "But you can turn it
on again, with"
3070 LPRINT TAB 60;"RANDOMIZE US
R 64970"
3080 STOP
8000 CLS : PRINT "This is an exa
mple of the boringold printing.
What else could we want?"
8010 LPRINT AT 0,50;"Well, we CO
ULD wish for proportional printi
ng;"
8020 LPRINT "Look how neat it is
, and how easy it is to read!"
8030 LPRINT "...Then, count how
many additional characters we
can get on a line."
8040 LPRINT
8050 LPRINT "REMEMBER...these ch
aracters are the SAME SIZE
as the standard Timex character
set. Only the spacing between the
m has been changed!!!"
8060 RETURN

```

This is an example of the boring old printing. What else could we want?

Well, we COULD wish for proportional printing; Look how neat it is, and how easy it is to read. Then, count how many additional characters we can get on a line.

REMEMBER...these characters are the SAME SIZE as the standard Timex character set. Only the spacing between them has been changed.

Optional Font Designer Program

```

10 CLEAR 39999
20 LET ba=40000
100 PRINT AT 2,3;" "
110 FOR f=3 TO 10: PRINT AT f,3
;"00000000": NEXT f
120 PRINT AT 11,3;" "
130 LET a=0: LET b=0
200 OVER 1: PRINT AT a+3,b+4;" "
: PAUSE 2: PRINT AT a+3,b+4;" "
: PAUSE 2: OVER 0
210 LET a=a+(INKEY$="a" AND a<7
)-(INKEY$="q" AND a>0)
220 LET b=b+(INKEY$="p" AND b<7
)-(INKEY$="o" AND b>0)
230 IF INKEY$="m" THEN PRINT AT
a+3,b+4: INVERSE 1;"X": PLOT b+
160,(8-a)+151
240 IF INKEY$="n" THEN PRINT AT
a+3,b+4;"0": PLOT INVERSE 1;b+1
60,(8-a)+151
250 IF INKEY$="f" THEN GO TO 30
0
260 IF INKEY$="d" THEN GO TO 40
0
270 IF INKEY$="u" THEN GO TO 50
0
275 IF INKEY$="s" THEN GO TO 10
00
280 IF INKEY$="j" THEN GO TO 10
20
290 GO TO 200
300 INPUT "Which Character? ";c
$
310 IF LEN c$<>1 THEN GO TO 300
320 IF CODE c$<32 OR CODE c$>12
7 THEN GO TO 300
330 LET c=CODE c$
340 FOR f=0 TO 7
350 POKE (c-32)*8+f+ba,PEEK (16
468+(f*256)): NEXT f: RUN
400 INPUT "Which Character? ";c
$
410 IF LEN c$<>1 THEN GO TO 400
420 IF CODE c$<32 OR CODE c$>12
7 THEN GO TO 400
430 POKE 23606,64: POKE 23607,1
55: PRINT AT 2,20;c$: POKE 23606
,0: POKE 23607,60
440 FOR a=0 TO 7: FOR b=0 TO 7
450 IF POINT (b+160,(8-a)+151)=
1 THEN PRINT AT a+3,b+4: INVERSE
1;"X": GO TO 470
460 PRINT AT a+3,b+4;"0"
470 NEXT b: NEXT a
480 LET a=0: LET b=0: GO TO 200
500 PRINT AT 15,0: FOR f=32 TO
127: PRINT BRIGHT 1;CHR$ f;" "
: NEXT f
501 PRINT AT 15,0;" " : OVER 1:
FOR f=32 TO 127: POKE 23606,64:
POKE 23607,155: PRINT BRIGHT 1:
CHR$ f: POKE 23606,0: POKE 2360
7,60: PRINT " " : NEXT f: OVER 0
: POKE 23606,0: POKE 23607,60
510 BEEP .1,1: PAUSE 0: PAUSE 0
: RUN
1000 INPUT "File Name? ";f$: SAV
E f$CODE 40000,768: RUN
1020 INPUT "File Name? ";f$: LOA
D f$CODE 40000,768: RUN

```

10 REM Program to perform Proportional Printing.

15 REM An upgraded version of an entry in "YOUR SPECTRUM", Nov 1985

20 REM Changes include - Modified for TS2068, Supports TAB, better fonts, and works as in OVER 0, instead of OVER 1

25 REM When you RUN this program, it will SAVE the actual Proportional Print program to tape

30 REM When THAT program is run, all LPRINT statements will do proportional printing to the screen.

40 REM AT and TAB are supported, but they now refer to pixel positions, instead of character positions.

50 REM It will also be possible to use PRINT, to do non-proportional printing on the screen.

60 GO TO 585

70 REM Subroutine to decode the following Hexadecimal DATA statements

```
75 READ n$: LET hi=CODE n$(1):  
LET lo=CODE n$(2)  
80 IF hi>57 THEN LET hi=hi-7  
85 IF lo>57 THEN LET lo=lo-7  
90 LET n=16*hi+lo-816  
95 RETURN
```

```
100 DATA "21", "00", "A8", "22", "E9", "FE", "2A", "4F"
```

```
110 DATA "5C", "01", "0F", "00", "09", "01", "DE", "FD"
```

```
120 DATA "71", "23", "70", "C9", "E5", "C5", "D5", "F5"
```

```
130 DATA "CD", "EA", "FD", "F1", "D1", "C1", "E1", "C9"
```

```
140 DATA "F5", "3A", "F0", "FE", "FE", "00", "20", "15"
```

```
150 DATA "F1", "FE", "16", "20", "06", "3E", "FF", "32"
```

```
160 DATA "F0", "FE", "C9", "FE", "17", "20", "38", "3E"
```

```
170 DATA "FD", "32", "F0", "FE", "C9", "FE", "FF", "20"
```

```
180 DATA "09", "F1", "32", "E9", "FE", "21", "F0", "FE"
```

```
190 DATA "35", "C9", "FE", "FE", "20", "0D", "F1", "47"
```

```
200 DATA "3E", "A8", "90", "32", "EA", "FE", "AF", "32"
```

```
210 DATA "F0", "FE", "C9", "FE", "FD", "20", "0A", "F1"
```

```
220 DATA "32", "F0", "FE", "E9", "FE", "3E", "FC", "32", "F0", "FE"
```

```
230 DATA "C9", "F1", "AF", "32", "F0", "FE", "C9", "FE"
```

```
240 DATA "0D", "20", "09", "CD", "2A", "FF", "3E", "02"
```

```
250 DATA "CD", "30", "12", "C9", "FE", "20", "38", "04"
```

```
260 DATA "FE", "80", "38", "02", "3E", "3F", "26", "00"
```

```
270 DATA "6F", "29", "29", "29", "EB", "2A", "F4", "FE"
```

```
280 DATA "19", "7E", "32", "F1", "FE", "36", "00", "22"
```

```
290 DATA "F2", "FE", "01", "07", "00", "09", "22", "EE"
```

```
300 DATA "FE", "3A", "EA", "FE", "FE", "A9", "D2", "0A"
```

```
310 DATA "FF", "CD", "13", "FF", "ED", "4B", "E9", "FE"
```

```
320 DATA "CD", "03", "26", "32", "ED", "FE", "22", "EB"
```

```
330 DATA "FE", "06", "08", "C5", "2A", "EE", "FE", "7E"
```

```
340 DATA "2B", "22", "EE", "FE", "6F", "3A", "F1", "FE"
```

```
350 DATA "16", "FF", "5F", "4F", "3A", "ED", "FE", "FE"
```

```
360 DATA "00", "28", "12", "47", "26", "00", "CB", "3D"
```

```
370 DATA "CB", "1C", "CB", "3B", "CB", "FB", "CB", "1A"
```

```
380 DATA "A7", "10", "F3", "42", "4B", "ED", "5B", "EB"
```

```
390 DATA "FE", "1A", "A1", "B5", "12", "CD", "37", "FF"
```

```
400 DATA "3A", "ED", "FE", "FE", "00", "28", "09", "13"
```

```
410 DATA "1A", "A0", "B4", "12", "CD", "37", "FF", "1B"
```

```
420 DATA "2A", "EB", "FE", "CD", "F7", "FE", "22", "EB"
```

```
430 DATA "FE", "C1", "10", "AF", "3A", "F1", "FE", "2A"
```

```
440 DATA "F2", "FE", "77", "3A", "E9", "FE", "47", "3A"
```

```
450 DATA "F6", "FE", "80", "32", "E9", "FE", "C9", "00"
```

```
460 DATA "A8", "00", "00", "00", "00", "00", "00", "00"
```

```
470 DATA "00", "00", "C8", "F9", "00", "F5", "7C", "25"
```

```
480 DATA "E6", "07", "20", "0A", "7D", "D6", "20", "6F"
```

```
490 DATA "38", "04", "7C", "C6", "08", "67", "F1", "C9"
```

```
500 DATA "3A", "F1", "FE", "2A", "F2", "FE", "77", "CF"
```

```
510 DATA "04", "06", "08", "3A", "F1", "FE", "4F", "A7"
```

```
520 DATA "CB", "39", "30", "03", "05", "18", "F8", "78"
```

```
530 DATA "32", "F6", "FE", "3A", "E9", "FE", "80", "00"
```

```
540 DATA "AF", "32", "E9", "FE", "3A", "EA", "FE", "D6"
```

```
550 DATA "08", "32", "EA", "FE", "C9", "E5", "F5", "7A"
```

```
560 DATA "CB", "0F", "CB", "0F", "CB", "0F", "E6", "03"
```

```
570 DATA "F6", "58", "67", "6B", "3A", "8D", "5C", "77"
```

```
580 DATA "F1", "E1", "C9"
```

```
585 CLEAR 64199: PRINT AT 10,0; "This Will Take a While...": PRINT
```

```
...Why not take a break?"
```

```
590 REM *****
```

```
610 FOR j=64970 TO 65356: GO SUB 70: POKE j,n: NEXT j
```

```
700 REM *****
```

```
710 REM Now that the machine code is in, we'll derive the compressed fonts from the standard TiMex character set
```

```
1000 LET addr=PEEK 23606+256*PEEK 23607+256*8: LET daddr=64208
```

```
1010 FOR c=1 TO 95
```

```
1020 LET smin=16
```

```
1030 FOR x=1 TO 8
```

```
1040 LET l=PEEK addr: LET addr=addr+1
```

```
1050 IF l<16 THEN LET s=16: GO TO 1090
```

```
1060 IF l<32 THEN LET s=8: GO TO 1090
```

```
1070 IF l<64 THEN LET s=4: GO TO 1090
```

```
1075 IF l<128 THEN LET s=2: GO TO 1090
```

```
1080 LET s=1
```

```
1090 IF s<smin THEN LET smin=s
```

```
1100 NEXT x
```

```
1110 LET addr=addr-8
```

```
1120 FOR x=1 TO 8
```

```
1130 POKE daddr, (PEEK addr)*smin
```

```
1140 LET addr=addr+1: LET daddr=daddr+1
```

```
1150 NEXT x
```

To Frank and all the people who helped put on the 87 ComputerFest - Three CHEERS and and very big B I B T H A N K YOU! Though no local members were able to attend, the reports coming in from goers is all up beat, and all are looking forward to next year!!An estimated 10000 volunteer manhours went into the production of the FEST. Is there any other orphan or NON orphan computer group that has so much for the users and their little orphan computers? I guess TS users are a special breed and the folks who put on ComputerFests 86 & 87 are at the top of the list.

NEW: "PAINT"-by Dave Franon, 3534 A E. Squire Ave., Cudahy, WI 53110-\$19.95. 8x normal color resolution, 25 unique functions, joystick control, menu-drive, HiRes, greyscale screen dumps to TS2040 and Epson compatibles, Full color hires dumps to Canon color ink jet and compatibles, supports AERCO centronics IF. with 24 page manual. as seen in SMUG Bytes, May 87

NEWS: On the down side of the TS world, it has been learned that ZX Computing has called it quits- it was a Very Great magazine until it went heavy on games about a year ago. Blame on declining readership, not content?? They are refunding subscription monies. This info from SLUG newsletter, June '87, Sinclair Louisville Users Group,4122 Wallingford, Louisville, KY 40218 2365

NEW:Desktop Publisher for the TS2068, \$19.95 + 1.25 shipping, Charles Stelding, 1415 South Baxter, Tyler, TX 75701. Make headlines, use screens, design fonts, elimanate scissors, glue and messy results, use for newsletters, church or PTA bulletins or whatever!

NEWS: Info here is from COMPUTE! May 1987 magazine page 51, "12 Special Bulletins Boards"

Name	Telephone	Specific info
Aviation Connection	214-245-5633	Dallas, TX dedicated to pilots and aeronautics buffs
Bullet 'N Board	703-971-4491	Silver Spring VA, NRA info, firearms, legislative happenings, special registration process-free board. SYSOP is Tanya Metaksa
The Casino BBS	609-652-6030	Atlantic City, NJ- You wont win but you dont lose either includes nightlife and entertainment guides, best slot payoffs
Collectors Network	213-204-0646	Los Angeles, CA Info and data on collectibles-coins,cards,modem talk with SYSOP Harry Rosenfeld.
Crime Prevention	214-578-1311	Plano, TX SYSOP Cpt. Lyndon Payne, gives tips on crime stopping, personal protection, check out the "Crime of the Week"
Cryptologic Research	703-237-4322	McLean, WV hours 5:30pm-8:00am EST M-F coded messages turn you on or do you have a computer security problem? Call SYSOP Robert Juneman
Electronic Call Board	718-499-1633	Brooklyn, NY dedicated to the performing arts SYSOP Bob Ballard keeps casting notices, schedules of stage shows around the country, more!!
The Guideboard	415-864-3858	San Francisco-taxi cab drivers BBS find out what's really happening in the Golden gate City!!
MIDI World Network	213-826-4288	Los Angeles, a devoted BBS to MIDI related computer use .
Survival Communication	707-545-0746	Napa Valley, CA SYSOP Don Kulha hosts conferences on medicine, food, energy, communications, weapons, and vehicles.
Top of the Rockies	303-963-3688	Roaring Fork, CO SYSOP Barry Clements gives out ski info for Colorado.
The Train Board	513-398-0928	Mason, OH- model train buffs- radio controlled hobbies-SYSOP Decker Dogget wants to talk to you!

NEWS:To all members we at SINCUS now have our own conference on TCCS-785-2118 after you log on, just enter J 5 and you are on! This is not restricted to SINCUS members but open to and for all. Scott Wiltsey the SYSOP has the computer on from 9am to 11pm-seven days a week. Use it or lose it!

ALERT-modem users beware of using the same password on every BBS- locally a new BBS's files were used by an individual to obtain passwords. A lot of messages on other BBSs were erased by this individual using the perloined passwords. I was one lazy user, and had used the same on every BBS, now I am changing all my passwords.

NEWS: We here at SINCUS have been getting tapes from members with some outstanding programming efforts on them, if not in programming talent, surely in time of copying long long programs out of British magazines. With John Colonna's help, I hope we can start getting the tape exchange program rolling. It will take some time, so please be patient. I'd like to thank Richard Hurd, Joan Kealy and Harold Crandall for recent tapes. Several other members have helped out in the past, and to those also we will get updated material to you.

New,News Cont.....

NEWS:In the May/June 1987 issue of Time Designs, on page 13, there is a program called "CK type". This is supposed to aid those who type in a long article and commit a typo, and then may want to commit something else. This gives a checksum type figure for every line of BASIC. It is only used with submitted listings, to give future listing copiers a figure to compare to. This will work on the TS2068, but many of the listings are in British mags, and I am not aware of any sort of checksum being used there. It is a very good idea. Passing works around via BBSs saves many the tedious job of typing in several pages of listings. But some kind soul has to type it in and then donate his/her efforts to the rest of us. Stan Lenke developed and donated this program to the TS community thru Time Designs.

Secretary's Notes Cont-----

A Scroll of the Screen and Hello and Welcome to Elliana Tartarini, Exeter, NH: Don Berry, Orlando FL: Robert Tisdale, Ellisville, MS: David Maguire, E.Greenbush, NY: Mark Miller, Baldwin Park, CA: John Austin, McKenney, TX: Hal Bellinson, Troy, NY and Ken Diederich, Jacksonville, AR and a real big thanks to renewing members, Richard Hurd, Warrenton OR and Ian Robertson, Islington, Ont.<saw your pic in TDM-I think?> Thank you all for your support and we look forward to hearing from you in the form of printable input to our newsletter. Keep those articles coming!!

-----advertisement-----

CLONE--CLONE--CLONE--To make a tape backup of that \$25 original program, or easily duplicate copies of that program you are going to market, get CLONE. Can LOAD all BASIC & MC in one step and then SAVE it all in one more step. On TS2068 programs this is all you need. For the more sophisticated copy protection in many Spectrum programs, it can use 2 tape recorders, and the TS2068 (as a noise filter and pulse stretcher) to also make an acceptable backup copy. Runs under both TS2068 and Spectrum ROMs. Easily transferred to the Sinclair Microdrives <though still for making tape copies>, so it can probably be transferred to other mass storage systems, as well. Dues paying members of SINCUS can obtain a copy and documentation for \$6, shipping included, as well as user support. Make check out to SINCUS. Mail to SINCUS, 1229 Rhodes Road, Johnson City, NY 13790. CLONE--CLONE nonmembers can obtain CLONE thru RMG, 1419 1/2 7th Street, Oregon City, OR 97045;write for price;send 12 SASEs and get on a special price offering mailings plus a \$5 off coupon.

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Does the room temperature SUPERconductor cometh and what does it bode for us?

See you in September, have a good summer and keep TSing!